

In the claims

Please amend the following claims:

---

1.(amended) A process for removing a layer of silicon oxynitride, comprising:

providing a substrate and depositing thereon a layer of silicon oxynitride;

mounting said substrate on a platen and, using a polishing pad and a slurry,

*A1* removing said layer of silicon oxynitride, thereby forming a fresh surface;

removing said polishing pad and then washing off any remaining slurry; and

with said substrate still on the platen, subjecting said fresh surface to a [high pressure] rinse by a solution that comprises a surfactant that modifies hydrophobic behavior, thereby removing from said fresh surface any and all residual particles of silicon oxynitride.

---

4.(amended) The process described in claim 1 wherein said fresh surface is subjected to said [high pressure] rinse for between about 5 and 20 seconds.

*G2*  
5.(amended) A process for removing a layer of silicon oxynitride, comprising:

providing a substrate and depositing thereon a layer of silicon oxynitride;

mounting said substrate on a platen and, using a polishing pad and a slurry,

removing said layer of silicon oxynitride, thereby forming a fresh surface;

removing said polishing pad and then washing off any remaining slurry; and  
with said substrate still on the platen, subjecting said fresh surface to a rinse by a  
solution that comprises tetramethyl ammonium hydroxide, thereby removing from said  
fresh surface any and all residual particles of silicon oxynitride.

---

G2  
8.(amended) The process described in claim 5 wherein said fresh surface is subjected to  
said rinse for between about 5 and 20 seconds.

G3  
9.(amended) A process for removing a layer of silicon oxynitride, comprising:  
providing a substrate and depositing thereon a layer of silicon oxynitride;  
mounting said substrate on a platen and, using a polishing pad and a slurry,  
removing said layer of silicon oxynitride, thereby forming a fresh surface;  
removing said polishing pad and then washing off any remaining slurry; and  
with said substrate still on the platen, subjecting said fresh surface to a rinse by a  
solution that comprises isopropyl alcohol, thereby removing from said fresh surface any  
and all residual particles of silicon oxynitride.

---

G4  
12.(amended) The process described in claim 9 wherein said fresh surface is subjected  
to said rinse for between about 5 and 20 seconds.

13.(amended) A process for forming a tungsten stud in a silicon integrated circuit,

comprising:

providing a partially completed integrated circuit whose top layer is conductive;

on said conductive layer, depositing a dielectric layer;

on said dielectric layer, depositing a layer of silicon oxynitride;

on said layer of silicon oxynitride, depositing a layer of titanium nitride;

patterning and then etching said titanium nitride, silicon oxynitride, and dielectric

*Ay*  
layers to form a via hole that extends as far as said conductive layer;

over-filling said via hole with tungsten whereby a layer of tungsten, having a first thickness, covers said titanium nitride layer;

on a first platen, subjecting said tungsten layer to CMP until a second thickness of tungsten covers said titanium nitride layer;

on a second platen, subjecting said integrated circuit to CMP until all tungsten outside said via hole has been removed and until said layer of titanium nitride has also been removed;

on a third platen, subjecting said integrated circuit to CMP, using a polishing pad and a slurry, until said layer of silicon oxynitride has been removed, thereby forming a fresh surface;

removing said polishing pad and then washing off any remaining slurry; and

with said integrated circuit still on said third platen, subjecting said fresh surface to a rinse by a solution that comprises a surfactant that modifies hydrophobic behavior, thereby removing from said fresh surface any and all residual particles of silicon oxynitride.

---

to said rinse for between about 5 and 20 seconds.

*A5*

---

17.(amended) The process described in claim 13 wherein the step of subjecting said fresh surface to a rinse further comprises emitting said solution that comprises a surfactant from a dispenser at a flow rate between about 100 and 300 ml/min.

---

*A6*

19.(amended) A process for forming a tungsten stud in a silicon integrated circuit, comprising:

providing a partially completed integrated circuit whose top layer is conductive;  
on said conductive layer, depositing a dielectric layer;  
on said dielectric layer, depositing a layer of silicon oxynitride;  
on said layer of silicon oxynitride, depositing a layer of titanium nitride;  
patterning and then etching said titanium nitride, silicon oxynitride, and dielectric layers to form a via hole that extends as far as said conductive layer;  
over-filling said via hole with tungsten whereby a layer of tungsten, having a first thickness, covers said titanium nitride layer;  
on a first platen, subjecting said tungsten layer to CMP until a second thickness of tungsten covers said titanium nitride layer;  
on a second platen, subjecting said integrated circuit to CMP until all tungsten outside said via hole has been removed and until said layer of titanium nitride has also

been removed;

on a third platen, subjecting said integrated circuit to CMP, using a polishing pad and a slurry, until said layer of silicon oxynitride has been removed, thereby forming a fresh surface;

*A6*  
removing said polishing pad and then washing off any remaining slurry; and  
with said integrated circuit still on said third platen, subjecting said fresh surface to a rinse by a solution that comprises tetramethyl ammonium hydroxide, thereby removing from said fresh surface any and all residual particles of silicon oxynitride.

---

*A7*  
22.(amended) The process described in claim 19 wherein said fresh surface is subjected to said rinse for between about 5 and 20 seconds.

23.(amended) The process described in claim 19 wherein the step of subjecting said fresh surface to a rinse further comprises emitting said solution that comprises tetramethyl ammonium hydroxide from a dispenser at a flow rate between about 100 and 300 ml/min.

---

26.(amended) A process for forming a tungsten stud in a silicon integrated circuit, comprising:

*A8*  
providing a partially completed integrated circuit whose top layer is conductive;  
on said conductive layer, depositing a dielectric layer;  
on said dielectric layer, depositing a layer of silicon oxynitride;

on said layer of silicon oxynitride, depositing a layer of titanium nitride; patterning and then etching said titanium nitride, silicon oxynitride, and dielectric layers to form a via hole that extends as far as said conductive layer;

over-filling said via hole with tungsten whereby a layer of tungsten, having a first thickness, covers said titanium nitride layer;

*A8* on a first platen, subjecting said tungsten layer to CMP until a second thickness of tungsten covers said titanium nitride layer;

on a second platen, subjecting said integrated circuit to CMP until all tungsten outside said via hole has been removed and until said layer of titanium nitride has also been removed;

on a third platen, subjecting said integrated circuit to CMP, using a polishing pad and a slurry, until said layer of silicon oxynitride has been removed, thereby forming a fresh surface;

removing said polishing pad and then washing off any remaining slurry; and with said integrated circuit still on said third platen, subjecting said fresh surface to a rinse by a solution that comprises isopropyl alcohol, thereby removing from said fresh surface any and all residual particles of silicon oxynitride.

---

*G9* 29.(amended) The process described in claim 26 wherein said fresh surface is subjected to said rinse for between about 5 and 20 seconds.